U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Stono Phosphate Works - Removal Polrep
Initial and Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: **POLREP #1**
Final
Stono Phosphate Works
A4F4
North Charleston, SC
Latitude: 32.8301974 Longitude: -79.9642897

To: Jim McGuire, EPA Region 4

From: McKenzie Mallary, RPM
Date: 8/25/2011
Reporting Period:

1. Introduction

1.1 Background

Site Number:	A4F4	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Non-Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	1/3/2011	**Start Date:**	
Demob Date:	7/8/2011	**Completion Date:**	
CERCLIS ID:	SC0002316404	**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

1.1.2 Site Description

1.1.2.1 Location

The Stono Phosphate Works Site (the “Site”) is a 15-acre, Non-NPL site located on Austin Avenue in North Charleston, South Carolina. The Site is located between Interstate 26 to the east and the Ashley River to the west. The Site is bounded to the north by the Rhodia Corporation facility, and to the south by the Atlantic Phosphate Works Site (including the Hagood Power Station owned and operated by SCE&G). The predominant structures that are located on the Stono Phosphate Works Site today are related to the Dolphin Cove Marina.

Phosphate fertilizer manufacturing occurred at the Site from 1900 to the late 1950s. Environmental impacts associated with the former phosphate manufacturing include lead and arsenic contamination, as

well as low pH conditions, in soil, sediment, and groundwater.

1.1.2.2 Description of Threat

Using the soil data collected during the EE/CA, a screening-level risk evaluation was performed to assess the potential risks, or potential threats, to human health. The highest level of arsenic in surface and subsurface soil was 827 parts-per-million (ppm); the highest level of lead in surface and subsurface soil was 60,700 ppm. These levels of arsenic and lead in soil exceed both USEPA and South Carolina Department of Health and Environmental Control (SCDHEC)-approved action levels, or cleanup criteria, for protection of human health through direct contact exposure (i.e., 27 ppm arsenic, 895 ppm lead). This contamination represents *soil with high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate*.

Using the sediment analytical data, a screening-level risk evaluation was performed to assess the potential risks, or potential threats, to the environment. Category 3 and 4 Mean ERM Quotients were calculated for twelve (12) of the 31 sediment samples, representing the highest potential for adverse impacts to ecological receptors in the nearby marsh and the Ashley River; the remaining 19 sediment samples revealed Category 2 ERM quotients, indicating lower potential for adverse impacts to ecological receptors. The presence of sediment with Category 3 or 4 ERM Quotients represents a*ctual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations or the food chain*.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

2. Current Activities

2.1 Operations Section

No information available at this time.

2.2 Planning Section

No information available at this time.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

The Non-Time-Critical Removal Action (NTCRA) was initiated at the Site by ExxonMobil and their consultant ARCADIS in January 2011, and involved the excavation, treatment, and off-site disposal of an estimated 30,000 to 40,000 cubic yards of contaminated soil and sediment. All areas impacted by the NTCRA, inluding upland soil excavation areas and wetlands, were restored by ExxonMobil to the maximum extent practicable. Sheet piling was installed along the existing bulkhead in the Ashley River in order to assist with the removal of impacted sediments. A chemical amendment was mixed with the backfill placed below the water table in the soil excavation areas to help reduce the levels of lead and arsenic in groundwater. EPA

met with representatives from SCDHEC, and ExxonMobil's consultants ARCADIS on June 16, 2011, to conduct the Final Inspection for the NTCRA. Demobilization was completed on July 8, 2011.

6.2 Reporting Schedule

7. Situational Reference Materials

No information available at this time.